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## Abstract

**Background**

Numerous studies indicate that health care providers, particularly nurses, face a high risk of on-the-job abuse from patients. This article examines physical and emotional abuse from patients in nurses working in hospitals or long-term care facilities.

**Data and methods**

Data are from the 2005 National Survey of the Work and Health of Nurses. Cross-tabulations were used to examine abuse in relation to personal characteristics of the nurse, job characteristics, and workplace climate factors. Multiple logistic regression modeling was used to examine abuse in relation to staffing and resource adequacy and relations among colleagues, controlling for personal and job characteristics.

**Results**

In 2005, 34% of Canadian nurses providing direct care in hospitals or long-term care facilities reported physical assault by a patient in the previous year, 47% reported emotional abuse. Abuse was related to being male, having less experience, usually working non-day shifts, and perceiving staffing or resources as inadequate, nurse-physician relations as poor, and co-worker and supervisor support as low. Associations between abuse and staffing or resource inadequacy and poor working relations persisted when controlling for personal and job characteristics.

**Interpretation**

Modifiable factors are important to nurses' on-the-job safety.

## Keywords

resource allocation, violence, workload, workplace

## Author

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Health care providers are subject to a particularly high risk of workplace violence, and nurses are most at risk.[1-9] Evidence from numerous studies indicates that on-the-job abuse can result in a variety of negative outcomes among nurses, including anger, fear, depression, anxiety, sleep disruption, increased sick leave, symptoms of post-traumatic stress disorder, and job dissatisfaction.[3,10-20] In addition, the likelihood of intending to leave their jobs or even the nursing profession altogether is greater among nurses who have experienced abuse on the job.[14,20-24]

Abuse of health care providers may also affect recipients of care. Most of the research examining abuse in relation to quality of care is based on nurses' perceived ability to care for patients following incidents of abuse. Typical reports by nurses of the effects of abuse include impaired job performance, decreased productivity, and increased error.[11,20-22,25]

The Canadian Nurses Association (CNA) and the International Council of Nurses (ICN) strongly advocate "zero-tolerance" of violence in the workplace.[26,27] An improved understanding of the factors associated with on-the-job abuse is an important prerequisite to the development of effective workplace policies.

Conceptual models of the factors that give rise to workplace violence in the health care sector generally include three levels of variables: individual characteristics of the nurse and the patient, workplace factors, and societal influences.[28] However, evidence-based research that considers variables from all three levels is scarce. A few studies[29-32] have been based on multivariate models that address both personal and workplace factors, but such research is relatively

uncommon, despite the view that it could inform the development of programs aimed at reducing on-the-job abuse of nurses.[33]

This study examines the extent to which Canada's nurses working in hospitals or long-term care facilities face on-the-job abuse from patients. Then, on-the-job abuse is examined in relation to three groupings of variables—personal characteristics of the nurse, job characteristics, and workplace climate factors. A final objective is to determine whether workplace climate factors—of interest because of their potential for modification—are associated with abuse, independent of the potentially confounding effects of personal and job characteristics. The workplace climate factors studied are staffing and resource adequacy, nurse-physician working relations, and support from co-workers and supervisors.

## Methods

### Data source

The data for this study are from the 2005 National Survey of the Work and Health of Nurses (NSWHN), a comprehensive survey of employed regulated Canadian nurses (registered nurses, licensed practical nurses, and registered psychiatric nurses) conducted by Statistics Canada in partnership with the Canadian Institute for Health Information and Health Canada.[34] The purpose of the NSWHN was to collect information from nurses in all provinces and territories about their work environment, workload, perceived quality of patient care, and their physical and mental health. Survey content was included to provide data for analysis focusing on links between the nursing practice environment and various nurse and patient outcomes.

The NSWHN sample was selected at random from membership lists provided to Statistics Canada by all 26 provincial and territorial nursing organizations and regulating bodies across Canada. The survey was administered by telephone over the period October 2005 to January 2006; the duration of a typical interview was 30 minutes.

Of the 24,443 nurses initially selected for the sample, 21,307 were successfully contacted, and of these, 1,015 were out-of-scope—meaning that they were not employed in nursing at the time of the survey. Another 1,616 (7.6% of the 21,307 who were contacted) refused to participate. Complete responses were obtained from 18,676 nurses, for a response rate of 79.7%.

Data were weighted to permit representative estimates of each of three nursing bodies—registered nurses (RNs), licensed practical nurses (LPNs) and registered psychiatric nurses (RPNs)—at the provincial level (and for the three territories combined).[34] Response rates by type of nurse were 80.8% among RNs, 78.4% among LPNs, and 80.6% among RPNs. Provincial response rates ranged from 77.0% in Ontario to 82.8% in Nova Scotia. The response rate in the three territories combined was 65.6%. The use of sampling weights is essential to reducing the potential for bias resulting from these differing response rates.

Reports of on-the-job abuse are far less common among nurses employed in settings such as community health, physicians' offices or educational institutions.[34] Therefore, to limit the heterogeneity of the sample, the analysis was restricted to nurses providing direct care to patients in hospitals or long-term care facilities. Of the total responding sample, 12,218 met these criteria; with survey weights applied, this sample was representative of the 218,300 Canadian nurses meeting the same criteria in the fall of 2005.

### Definitions

Two yes/no questions were used to measure *on-the-job abuse* from patients:

- During the past 12 months, did you experience a physical assault from a patient?
- During the past 12 months, did you experience emotional abuse from a patient?

These two items were read to nurses; no further explanation or definition of physical assault or emotional abuse was given.

Four variables were used to assess *workplace climate*. Two of these variables, *staffing/resource adequacy* and *nurse-physician working relations*, are derived from subscales of the Nursing Work Index (NWI), a set of measures developed to study the nursing practice environment.[35] Response items were based on a four-point Likert scale: "strongly agree"–score 0, "somewhat agree"–score 1, "somewhat disagree"–score 2, "strongly disagree"–score 3.

The items comprising the staffing/resource adequacy subscale are shown in Table 1. A total staffing/resource adequacy score (with a possible range of 0 to 12) was calculated by summing the scores for the four items, with higher scores indicating lower levels of perceived adequacy. Cut-points were determined so as to divide the weighted distribution of scores into quartiles. In the NSWHN, the reliability coefficient (as assessed by the Cronbach's alpha) for this subscale was satisfactory, at 0.84, and satisfactory validity statistics have been previously reported.[36]

Three statements measured nurse-physician working relations (Table 1); a total score (with a possible range of 0 to 9) was calculated by summing the scores for the three items; higher scores indicated less favourable relations. The weighted distribution of the scores was divided into quartiles. Cronbach's alpha for the nurse-physician working relations subscale was 0.82.

To maximize the number of respondents for whom scores were calculated, one "not applicable" or "not stated" response was accepted for both the staffing/resource adequacy and the nurse-physician working relations subscales. A score was calculated based on the items with responses and then adjusted by the

**Table 1**
**Selected characteristics of nurses providing direct care in hospitals or long-term care facilities, Canada, 2005**

| | Sample size | Estimated number | Percent |
|---|---|---|---|
| Total | 12,218 | 218,300 | |
| Personal characteristics | | | |
| Female | 11,365 | 205,400 | 94.1 |
| Average years of experience in nursing (standard deviation) | 17.0 (11.1) | 17.1 (11.3) | |
| Bachelor's degree or higher in nursing | 1,653 | 42,200 | 19.4 |
| Fair or poor general health | 856 | 15,200 | 7.0 |
| Fair or poor mental health | 630 | 12,900 | 5.9 |
| Job satisfaction | | | |
| Very satisfied | 4,713 | 77,200 | 35.4 |
| Somewhat satisfied | 5,912 | 110,700 | 50.8 |
| Somewhat dissatisfied | 1,238 | 23,500 | 10.8 |
| Very dissatisfied | 328 | 6,400 | 2.9 |
| Type of nurse | | | |
| Registered nurse | 5,616 | 164,200 | 75.2 |
| Licensed practical nurse | 5,618 | 51,200 | 23.5 |
| Registered psychiatric nurse | 984 | 2,900 | 1.3 |
| Job characteristics | | | |
| Work setting | | | |
| Hospital | 8,081 | 172,100 | 78.8 |
| Long-term care facility | 4,137 | 46,200 | 21.2 |
| Works full-time | 6,938 | 127,000 | 58.4 |
| Shift usually worked | | | |
| Days | 3,370 | 68,600 | 31.4 |
| Evenings | 1,050 | 20,200 | 9.3 |
| Nights | 1,152 | 24,000 | 11.0 |
| Mixed | 6,644 | 105,400 | 48.3 |
| Usually works 12-hour shift | 4,453 | 75,600 | 36.8 |
| Workplace climate factors | | | |
| Staffing/Resource adequacy | | | |
| Adequate support services allow me to spend time with my patients (percent disagreeing) | 5,619 | 99,900 | 47.0 |
| There is enough time and opportunity to discuss patient care (percent disagreeing) | 4,602 | 91,800 | 42.5 |
| There are enough nurses on staff to provide quality patient care (percent disagreeing) | 6,403 | 121,000 | 55.9 |
| There is enough staff to get the work done (percent disagreeing) | 5,854 | 112,000 | 51.7 |
| Nurse-physician working relations | | | |
| There is a lot of teamwork between nurses and physicians (percent disagreeing) | 2,310 | 41,100 | 19.2 |
| There is collaboration between nurses and physicians (percent disagreeing) | 1,271 | 24,300 | 11.3 |
| Physicians and nurses have good working relations (percent disagreeing) | 1,475 | 28,300 | 13.1 |
| Supervisor support | | | |
| Your supervisor is helpful in getting the job done (percent disagreeing) | 3,267 | 59,700 | 27.7 |
| Co-worker support | | | |
| You are exposed to hostility or conflict from the people you work with (percent agreeing) | 5,508 | 100,200 | 46.2 |
| The people you work with are helpful in getting the job done (percent disagreeing) | 413 | 8,200 | 3.8 |

not applicable
**Note:** Because of missing values, percent may not correspond to estimated number divided by total.
**Source:** 2005 National Survey of the Work and Health of Nurses.

mean substitution technique to compensate for the item without a response.

Two statements were used to measure *co-worker support*:

- You were exposed to hostility or conflict from the people you work with.
- The people you work with were helpful in getting the job done.

Response options were: "strongly agree," "agree," "neither agree nor disagree," "disagree," or "strongly disagree." Respondents were classified as having low co-worker support if they indicated "strongly agree" or "agree" in response to the first item, or "disagree" or "strongly disagree" in response to the second.

*Supervisor support* was measured with the item, "Your supervisor is helpful in getting the job done." Respondents were classified as having low supervisor support if they indicated "disagree" or "strongly disagree."

Detailed definitions and questionnaire items for the personal and job characteristics used in this study are available in a previously published report.[34]

## Analytical techniques

In processing the NSWHN data, Statistics Canada methodologists produced survey weights so that the data were representative of all regulated nurses across Canada. This analysis is based on data weighted to be representative of nurses employed in hospitals or long-term care facilities who provide direct care to patients. Frequency estimates were produced to examine characteristics of the study population. Bivariate estimates were used to examine factors associated with physical assault and emotional abuse from patients among these nurses.

Logistic regression models were used to examine abuse in relation to workplace climate factors. Three sets of models were fitted. In the first set, unadjusted odds were calculated to examine the individual relationship of each workplace climate factor to abuse. In the second set, personal characteristics of the nurse and job characteristics were included as control variables. Among the control variables reflecting personal characteristics, attitudinal factors were considered important—in particular, a generally gloomy outlook—because of the possible influence on the perception or likelihood of a nurse's reporting on-the-job abuse.

In the absence of variables directly measuring negative affectivity, self-reports of poor mental health and job dissatisfaction were used as control variables. The final model included all four workplace climate factors, in addition to personal and job characteristics. This was done to determine if workplace climate factors—of interest because of their potential to be changed—were associated with abuse, independent of the potentially confounding effects of personal and job characteristics. Selection of the personal and job characteristic control variables was guided by findings in the literature and availability in the NSWHN.

The bootstrap technique[37] was used to estimate standard errors, coefficients of variation and 95% confidence intervals. Differences between estimates were tested for statistical significance established at the level of $p < 0.05$.

## Results

### Characteristics of study population

In 2005, the number of nurses delivering direct patient care in hospitals or long-term care facilities was estimated at just over 218,000, based on a weighted sample of 12,218 respondents (Table 1). The overwhelming majority (94%) were women. On average, they had 17 years of experience as a nurse. Just under one-fifth (19%) had a bachelor's degree or higher in nursing. Most were in good health; only 7% rated their general health as "fair" or "poor," and 6% rated their mental health as "fair" or "poor." The vast majority were satisfied with their jobs—35% were very satisfied and 51% somewhat satisfied. Three-quarters were registered nurses (RNs); 24% were licensed practical nurses (LPNs); and the remaining 1% were registered psychiatric nurses (RPNs).

Over half (58%) of nurses in the study population were employed full-time, and close to four-fifths (79%) worked in hospitals. Two-thirds (69%) worked shifts other than exclusively

**Table 2**
**Number and percentage reporting physical assault by a patient over past 12 months, by selected characteristics, nurses providing direct care in hospitals or long-term care facilities, Canada, 2005**

| | Estimated number | Percent | 95% confidence interval | |
|---|---|---|---|---|
| | | | from | to |
| Total | 73,300 | 33.8 | 32.5 | 35.1 |
| Personal characteristics | | | | |
| Sex | | | | |
| Female | 67,400 | 33.0* | 31.7 | 34.4 |
| Male† | 5,900 | 46.1 | 40.6 | 51.6 |
| Years of experience in nursing | | | | |
| Fewer than 5 | 16,300 | 41.7* | 38.7 | 44.7 |
| 5 to 9 | 10,500 | 37.6 | 33.8 | 41.5 |
| 10 to 14 | 10,300 | 36.9 | 33.3 | 40.5 |
| 15 to 19† | 10,600 | 33.8 | 30.3 | 37.3 |
| 20 to 24 | 8,700 | 32.7 | 29.3 | 36.2 |
| 25 to 29 | 9,500 | 27.8* | 24.9 | 30.6 |
| 30 or more | 7,400 | 24.9* | 21.6 | 28.1 |
| Bachelor's degree or higher in nursing | | | | |
| Yes | 12,400 | 29.4* | 26.4 | 32.5 |
| No† | 60,900 | 34.8 | 33.4 | 36.3 |
| General health | | | | |
| Good, very good or excellent | 67,600 | 33.5 | 32.1 | 34.8 |
| Fair or poor† | 5,700 | 38.2 | 33.2 | 43.2 |
| Mental health | | | | |
| Good, very good or excellent | 67,600 | 33.1* | 31.8 | 34.5 |
| Fair or poor† | 5,700 | 45.2 | 39.3 | 51.2 |
| Job satisfaction | | | | |
| Very satisfied† | 21,100 | 27.4 | 25.4 | 29.5 |
| Somewhat satisfied | 37,900 | 34.5* | 32.6 | 36.3 |
| Somewhat dissatisfied | 10,800 | 46.5* | 42.1 | 50.9 |
| Very dissatisfied | 3,300 | 53.1* | 44.7 | 61.5 |
| Type of nurse | | | | |
| Registered nurse† | 49,100 | 30.2 | 28.5 | 31.8 |
| Licensed practical nurse | 22,800 | 44.8* | 43.0 | 46.5 |
| Registered psychiatric nurse | 1,400 | 47.2* | 44.2 | 50.1 |
| Job characteristics | | | | |
| Work setting | | | | |
| Hospital | 50,500 | 29.6* | 28.0 | 31.1 |
| Long-term care facility† | 22,800 | 49.6 | 47.3 | 51.8 |
| Work status | | | | |
| Full-time | 43,400 | 34.4 | 32.7 | 36.2 |
| Part-time† | 29,600 | 32.9 | 30.9 | 34.9 |
| Shift usually worked | | | | |
| Days† | 15,900 | 23.3 | 21.2 | 25.4 |
| Evenings | 8,100 | 40.2* | 35.8 | 44.5 |
| Nights | 9,200 | 38.7* | 34.5 | 43.0 |
| Mixed | 40,100 | 38.3* | 36.4 | 40.2 |
| Length of shift | | | | |
| 12 hours | 28,800 | 38.5* | 36.0 | 40.9 |
| Under 12 hours† | 40,000 | 31.0 | 29.5 | 32.6 |
| Workplace climate factors | | | | |
| Staffing/Resource adequacy | | | | |
| First quartile (most adequate) | 9,800 | 23.4 | 21.0 | 25.9 |
| Second quartile | 14,400 | 28.7‡ | 26.1 | 31.3 |
| Third quartile | 22,500 | 35.3‡ | 32.9 | 37.8 |
| Fourth quartile (least adequate) | 26,100 | 44.1‡ | 41.4 | 46.7 |
| Nurse-physician working relations | | | | |
| First quartile (most favourable) | 14,400 | 28.2 | 25.7 | 30.8 |
| Second quartile | 19,300 | 33.7‡ | 31.1 | 36.3 |
| Third quartile | 20,100 | 34.7 | 32.4 | 37.0 |
| Fourth quartile (least favourable) | 18,300 | 38.9‡ | 36.1 | 41.6 |
| Low supervisor support | | | | |
| Yes | 23,700 | 39.8* | 37.2 | 42.5 |
| No† | 49,200 | 31.7 | 30.2 | 33.1 |
| Low co-worker support | | | | |
| Yes | 40,300 | 39.7* | 37.7 | 41.7 |
| No† | 32,900 | 28.7 | 27.1 | 30.4 |

† reference category
* significantly different from estimate for reference category ($p < 0.05$)
‡ significantly different from estimate for previous quartile ($p < 0.05$)
**Source:** 2005 National Survey of the Work and Health of Nurses.

days, and 37% reported usually working a 12-hour shift.

## Workplace climate

Substantial percentages of nurses in the study population perceived that staffing or resources were less than adequate. The majority disagreed that there were enough nurses on staff to provide quality patient care (56%), or enough to get the work done (52%). Slightly lower percentages disagreed that adequate support services allowed them time to spend with patients (47%), and that there was enough time and opportunity to discuss patient care (43%).

In contrast, problems regarding relations with physicians were reported infrequently. A lack of teamwork between nurses and physicians was reported by 19%, and a lack of collaboration, by 11%. Thirteen percent disagreed with the statement "Physicians and nurses have good working relations."

Just over one-quarter (28%) reported that their supervisor was not helpful in getting the job done.

Although very few (4%) disagreed that the people they worked with were helpful in getting the job done, close to half (46%) reported that they were exposed to hostility or conflict from co-workers.

## Factors associated with abuse

Among nurses working in hospitals or long-term care facilities, 34% reported physical assault from a patient over the past year (Table 2), and 47% reported emotional abuse (Table 3). Male nurses and less experienced nurses were more likely to report both types of abuse. Having a bachelor's degree or higher in nursing was associated with a decreased likelihood of reporting physical assault, but was not related to emotional abuse. Compared with RNs, LPNs and RPNs were more likely to report abuse. RPNs were particularly at risk, with 47% reporting physical assault and 72% reporting emotional abuse.

**Table 3**
**Number and percentage reporting emotional abuse by a patient over past 12 months, by selected characteristics, nurses providing direct care in hospitals or long-term care facilities, Canada, 2005**

| | Estimated number | Percent | 95% confidence interval | |
|---|---|---|---|---|
| | | | from | to |
| Total | 101,200 | 46.7 | 45.3 | 48.1 |
| **Personal characteristics** | | | | |
| **Sex** | | | | |
| Female | 94,200 | 46.2* | 44.8 | 47.6 |
| Male† | 7,000 | 54.6 | 48.7 | 60.4 |
| **Years of experience in nursing** | | | | |
| Fewer than 5 | 18,800 | 48.2 | 44.9 | 51.5 |
| 5 to 9 | 13,600 | 48.7 | 44.8 | 52.7 |
| 10 to 14 | 14,600 | 52.1 | 48.4 | 55.9 |
| 15 to 19† | 16,300 | 51.8 | 48.1 | 55.5 |
| 20 to 24 | 12,300 | 46.6 | 42.9 | 50.4 |
| 25 to 29 | 14,000 | 40.8* | 37.3 | 44.3 |
| 30 or more | 11,500 | 39.1* | 35.2 | 42.9 |
| **Bachelor's degree or higher in nursing** | | | | |
| Yes | 19,300 | 46.1 | 42.6 | 49.5 |
| No† | 81,800 | 46.8 | 45.3 | 48.4 |
| **General health** | | | | |
| Good, very good or excellent | 92,900 | 46.0* | 44.6 | 47.5 |
| Fair or poor† | 8,300 | 56.0 | 50.8 | 61.3 |
| **Mental health** | | | | |
| Good, very good or excellent | 93,100 | 45.6* | 44.2 | 47.0 |
| Fair or poor† | 8,000 | 64.3 | 58.4 | 70.3 |
| **Job satisfaction** | | | | |
| Very satisfied† | 29,700 | 38.7 | 36.4 | 41.0 |
| Somewhat satisfied | 53,500 | 48.6* | 46.6 | 50.6 |
| Somewhat dissatisfied | 13,400 | 57.7* | 53.4 | 62.0 |
| Very dissatisfied | 4,200 | 68.5* | 60.9 | 76.1 |
| **Type of nurse** | | | | |
| Registered nurse† | 74,400 | 45.7 | 43.9 | 47.5 |
| Licensed practical nurse | 24,700 | 48.6* | 46.8 | 50.3 |
| Registered psychiatric nurse | 2,100 | 71.6* | 69.0 | 74.2 |
| **Job characteristics** | | | | |
| **Work setting** | | | | |
| Hospital | 79,100 | 46.3 | 44.7 | 48.0 |
| Long-term care facility† | 22,000 | 48.0 | 45.7 | 50.2 |
| **Work status** | | | | |
| Full-time | 60,200 | 47.8 | 45.9 | 49.7 |
| Part-time† | 40,700 | 45.3 | 43.3 | 47.3 |
| **Shift usually worked** | | | | |
| Days† | 25,000 | 36.6 | 34.2 | 39.1 |
| Evenings | 9,800 | 48.8* | 44.6 | 53.0 |
| Nights | 11,400 | 47.9* | 43.4 | 52.3 |
| Mixed | 55,000 | 52.6* | 50.6 | 54.6 |
| **Length of shift** | | | | |
| 12 hours | 41,000 | 54.7* | 52.1 | 57.3 |
| Under 12 hours† | 53,700 | 41.7 | 40.0 | 43.4 |
| **Workplace climate factors** | | | | |
| **Staffing/Resource adequacy** | | | | |
| First quartile (most adequate) | 13,200 | 31.7 | 28.7 | 34.7 |
| Second quartile | 20,800 | 41.4‡ | 38.6 | 44.2 |
| Third quartile | 32,100 | 50.5‡ | 47.9 | 53.0 |
| Fourth quartile (least adequate) | 34,400 | 58.0‡ | 55.4 | 60.6 |
| **Nurse-physician working relations** | | | | |
| First quartile (most favourable) | 19,700 | 38.7 | 35.8 | 41.5 |
| Second quartile | 24,900 | 43.5‡ | 40.8 | 46.2 |
| Third quartile | 28,100 | 48.6‡ | 46.0 | 51.1 |
| Fourth quartile (least favourable) | 27,000 | 57.4‡ | 54.6 | 60.2 |
| **Low supervisor support** | | | | |
| Yes | 32,500 | 54.6* | 52.0 | 57.2 |
| No† | 68,200 | 43.9 | 42.3 | 45.6 |
| **Low co-worker support** | | | | |
| Yes | 53,400 | 52.6* | 50.7 | 54.6 |
| No† | 47,600 | 41.6 | 39.7 | 43.5 |

† reference category
* significantly different from estimate for reference category ($p < 0.05$)
‡ significantly different from estimate for previous quartile ($p < 0.05$)
**Source:** 2005 National Survey of the Work and Health of Nurses.

Nurses working shifts other than days and those who usually worked a 12-hour shift were more likely to report both types of abuse.

Reports of abuse varied substantially by clinical area of practice. The percentage of nurses reporting physical assault was particularly high among those working in geriatrics/long-term care (50%), palliative care (47%), psychiatry/mental health (44%), critical care (44%), or the emergency room (42%) (Figure 1). Emotional abuse was more common among nurses working in psychiatry/mental health (70%), the emergency room (69%), critical care (54%), medicine/surgery (52%) or geriatrics/long-term care (49%) (Figure 2).

**Figure 1**
**Percentage reporting physical assault by a patient over past 12 months, by clinical area of employment, nurses providing direct care in hospitals or long-term care facilities, Canada, 2005**

* significantly different from estimate for total
E interpret with caution (coefficient of variation between 16.6% and 33.3%)
**Source:** 2005 National Survey of the Work and Health of Nurses

**Figure 2**
**Percentage reporting emotional abuse by a patient over past 12 months, by clinical area of employment, nurses providing direct care in hospitals or long-term care facilities, Canada, 2005**

Psychiatry / Mental health 70 *
Emergency room 69 *
Critical care 54 *
Medicine / Surgery 52 *
Geriatrics / Long-term care 49 *
Several clinical areas 47
Palliative care 45
Rehabilitation 44
Paediatrics 43
Oncology 41
Other direct care 39 *
Ambulatory care 37 *
Operating / Recovery room 24 *
Maternity / Newborn 23 *
Total 47%

* significantly different from estimate for total
**Source:** 2005 National Survey of the Work and Health of Nurses

## Workplace climate and abuse

The four workplace climate factors considered in this study—staffing/resource adequacy, nurse-physician working relations, supervisor support, and co-worker support—were all significantly associated with both physical assault (Table 2) and emotional abuse (Table 3). The data were suggestive of a gradient between the risk of abuse and staffing/resource adequacy. Reports of physical assault were highest (44%) among nurses who perceived staffing or resources to be the least adequate (quartile 4) and lowest (23%) among those who thought they were the most adequate (quartile 1). The corresponding estimates for emotional abuse were 58% for quartile 4 and 32% for quartile 1.

A gradient was also observed between abuse and nurse-physician working relations. The percentage reporting physical assault ranged from 28% of nurses perceiving the most favourable relations to 39% of those perceiving relations as least favourable. A more pronounced gradient was observed for reports of emotional abuse: 39% of those in the most favourable quartile versus 57% of those in the least favourable.

Nurses classified as having low supervisor support were more likely to report physical assault, compared with those reporting more positive relations (40% versus 32%). The same was true for emotional abuse (55% versus 44%).

Similar differences emerged according to level of co-worker support; 40% of nurses with low co-worker support reported physical assault, compared with 29% of those with more supportive co-workers. For emotional abuse, the comparable figures were 53% versus 42%.

## Multivariate analysis

Workplace climate factors were examined individually in multivariate models controlling for the influences of personal characteristics of the nurse and job characteristics (Table 4). Although controlling for these potentially confounding variables somewhat reduced the strength of the associations, all four workplace climate factors remained significantly related to both physical assault and emotional abuse. Simultaneously including all four of the workplace climate factors and personal and job characteristics further weakened the strength of associations of workplace climate factors with abuse, because of the correlations among the workplace climate factors. Nevertheless, perceptions that staffing or resources were inadequate or that

**Table 4**
**Odds ratios relating workplace climate factors to physical assault/emotional abuse by a patient over past 12 months, nurses providing direct care in hospitals or long-term care facilities, Canada, 2005**

| | | | | Adjusted for personal and job characteristics | | | Adjusted for workplace climate, personal and job characteristics | | |
|---|---|---|---|---|---|---|---|---|---|
| | Unadjusted odds ratio | 95% confidence interval | | Adjusted odds ratio | 95% confidence interval | | Adjusted odds ratio | 95% confidence interval | |
| Workplace climate factors | | from | to | | from | to | | from | to |
| | | | | Physical assault by patient | | | | | |
| Staffing/Resource adequacy | | | | | | | | | |
| First quartile (most adequate)† | 1.0 | ... | ... | 1.0 | ... | ... | 1.0 | ... | ... |
| Second quartile | 1.3* | 1.1 | 1.6 | 1.3* | 1.0 | 1.6 | 1.2 | 1.0 | 1.5 |
| Third quartile | 1.8* | 1.5 | 2.1 | 1.6* | 1.3 | 2.0 | 1.5* | 1.2 | 1.8 |
| Fourth quartile (least adequate) | 2.6* | 2.2 | 3.1 | 2.3* | 1.9 | 2.8 | 2.1* | 1.7 | 2.6 |
| Nurse-physician working relations | | | | | | | | | |
| First quartile (most favourable)† | 1.0 | ... | ... | 1.0 | ... | ... | 1.0 | ... | ... |
| Second quartile | 1.3* | 1.1 | 1.5 | 1.2 | 1.0 | 1.4 | 1.1 | 0.9 | 1.4 |
| Third quartile | 1.3* | 1.1 | 1.6 | 1.2* | 1.0 | 1.4 | 1.1 | 0.9 | 1.3 |
| Fourth quartile (least favourable) | 1.6* | 1.4 | 1.9 | 1.3* | 1.0 | 1.5 | 1.0 | 0.8 | 1.2 |
| Low supervisor support | | | | | | | | | |
| Yes | 1.4* | 1.3 | 1.6 | 1.3* | 1.2 | 1.6 | 1.2* | 1.0 | 1.4 |
| No† | 1.0 | ... | ... | 1.0 | ... | ... | 1.0 | ... | ... |
| Low co-worker support | | | | | | | | | |
| Yes | 1.6* | 1.5 | 1.8 | 1.6* | 1.4 | 1.8 | 1.4* | 1.3 | 1.7 |
| No† | 1.0 | ... | ... | 1.0 | ... | ... | 1.0 | ... | ... |
| | | | | Emotional abuse from patient | | | | | |
| Staffing/Resource adequacy | | | | | | | | | |
| First quartile (most adequate)† | 1.0 | ... | ... | 1.0 | ... | ... | 1.0 | ... | ... |
| Second quartile | 1.5* | 1.3 | 1.8 | 1.4* | 1.2 | 1.8 | 1.3* | 1.1 | 1.6 |
| Third quartile | 2.2* | 1.8 | 2.6 | 1.9* | 1.6 | 2.4 | 1.7* | 1.4 | 2.1 |
| Fourth quartile (least adequate) | 3.0* | 2.5 | 3.5 | 2.6* | 2.1 | 3.1 | 2.2* | 1.8 | 2.6 |
| Nurse-physician working relations | | | | | | | | | |
| First quartile (most favourable)† | 1.0 | ... | ... | 1.0 | ... | ... | 1.0 | ... | ... |
| Second quartile | 1.2* | 1.0 | 1.4 | 1.2* | 1.0 | 1.4 | 1.1 | 0.9 | 1.3 |
| Third quartile | 1.5* | 1.3 | 1.8 | 1.4* | 1.2 | 1.7 | 1.3* | 1.1 | 1.5 |
| Fourth quartile (least favourable) | 2.1* | 1.8 | 2.5 | 1.9* | 1.6 | 2.3 | 1.5* | 1.3 | 1.8 |
| Low supervisor support | | | | | | | | | |
| Yes | 1.5* | 1.4 | 1.7 | 1.4* | 1.2 | 1.6 | 1.2* | 1.0 | 1.4 |
| No† | 1.0 | ... | ... | 1.0 | ... | ... | 1.0 | ... | ... |
| Low co-worker support | | | | | | | | | |
| Yes | 1.6* | 1.4 | 1.8 | 1.5* | 1.3 | 1.7 | 1.3* | 1.2 | 1.5 |
| No† | 1.0 | ... | ... | 1.0 | ... | ... | 1.0 | ... | ... |

† reference category
* significantly different from estimate for reference category ($p < 0.05$)
... not applicable

**Note:** Personal characteristics included in the models were sex, years of experience in nursing, nursing education, general health, mental health, job satisfaction, and type of nurse. Job characteristics included work setting, clinical area of employment, work status, shift usually worked, and length of shift. See Appendix Tables A and B for results of full models.

**Source:** 2005 National Survey of the Work and Health of Nurses.

co-worker or supervisor support were low remained positively associated with both types of abuse. Unfavourable relations among nurses and physicians remained positively associated with emotional abuse, but the association with physical assault did not persist.

## Discussion

This study, based on data from a large nationally representative sample with an exceptionally high response rate, found that on-the-job abuse by patients is common among Canada's nurses. Studies elsewhere have also found that nurses face a high risk of on-the-job abuse, but that they tend to accept it as "part of the job".[5-8,14,38-40] Many nurses do not bother to document incidents of violence, either because they feel that no action will be taken or that they will be held accountable; a "culture of silence" is said to exist.[3,6,7,14,41-44]

Because of differing definitions of abuse, it is difficult to compare estimates from the NSWHN with those from other studies. A notable exception is the 2005 National Health Services (NHS) staff survey in England, in which nurses were asked questions similar to those used in the NSWHN: "In the past 12 months have you experienced physical violence from any of the following? Patients/Service users" and "In the past 12 months have you experienced harassment, bullying or abuse from any of the following? Patients/Service users."[45] Sixteen percent of NHS nurses reported physical abuse from a patient/service user over the past year, and 26% reported harassment, bullying or abuse. The NHS estimates are based on all nurses, regardless of work setting or job tasks. When estimates from the NSHWN were tabulated so that they were based on all nurses, 25% reported physical assault, and 38%, emotional abuse. Although comparisons with NHS estimates need to be interpreted with caution because of the somewhat different wording of the questions (particularly for emotional abuse), the Canadian estimates are substantially higher than those from England.

A possible explanation for the lower rates among British nurses relates to support for reporting abuse and follow-through of such reports by authorities. Among the NHS nurses who experienced physical abuse, 69% indicated that they reported the incident; among those who experienced emotional abuse, 57% reported the incident. These figures are appreciably higher than estimates from other studies. For example, in a survey in 1998/1999 of RNs in hospitals in Alberta and British Columbia, only 36% of those who experienced physical abuse indicated that they had reported the incident to the hospital, and of those who experienced emotional abuse, 28%.[31] A particularly relevant finding from the NHS survey was that very few nurses reported a lack of "effective action" when staff were either physically or emotionally abused. Encouragement for reporting incidents of abuse, along with an appropriate response by those in authority, may be required to reduce on-the-job abuse among nurses.

Consistent with other research, estimates from the NSWHN show that nurses with fewer years' experience[13,21,29-31,46-48] and male nurses[14,21,30,46] were more likely to report both physical and emotional abuse from patients. Nurses with less experience may not have the necessary skills to predict and defuse abusive situations. Alternatively, inexperienced, younger nurses may more readily acknowledge incidents of abuse, since they are less likely to accept it as being "part of the job."[31] Reasons that have been proposed for the higher risk of abuse among male nurses include greater exposure to violent patients, and societal norms that differ between the sexes.[14,21,48] One study found a tendency for male nurses to feel protective of female staff and to assume the primary role in restraining aggressive patients.[40]

Job characteristics associated with reports of abuse in this study were shift work and clinical area of employment. Shift work—particularly the night shift—has been linked to abuse in other research,[30] and may be related to working in more isolated conditions. Also consistent with other studies was the finding that nurses who work predominantly in psychiatry, emergency, geriatrics or long-term care, or critical care are particularly subject to abuse.[14,15,21,29,30,32,33]

An important finding from this study was that perceiving that staffing or resources were inadequate was associated with both physical and emotional abuse, independent of the potentially confounding effects of personal and job characteristics. Although studies examining workplace climate factors in relation to on-the-job abuse are relatively scarce, somewhat similar results have emerged from other research. A survey of nursing staff from eight European countries found that time pressure, defined as the extent to which nurses lack time to accomplish tasks, was associated with on-the-job abuse.[30] Another study of RNs working in hospitals in Alberta and British Columbia found that nurses who reported they had left tasks undone in their last shift because of lack of time were more likely to report abuse.[31] If nurses lack the time to complete necessary tasks as a result of staffing and resource inadequacy, patients may become agitated, thereby increasing the risk of violence directed at the nurse.

In this study, interpersonal relations were also related to abuse. Nurses who reported poor working relations with physicians, low supervisor support or low co-worker support were more likely to report abuse from patients. It has been hypothesized that hostile interactions among health care workers result in increased distress levels. In turn, relations between patients and nurses may be jeopardized.[30]

## *What is already known on this subject?*

- Health care providers commonly experience violence or verbal abuse from patients in their care, and nurses are particularly at risk.
- Nurses who experience on-the-job abuse are at risk of physical and psychological problems.
- There is also some evidence of a link between on-the-job abuse of nurses and diminished quality of patient care.

## *What does this study add?*

- This is the first Canadian study based on nationally representative data to quantify the extent to which nurses working in hospitals or long-term care facilities report on-the-job abuse from patients, and to examine factors associated with abuse.
- Workplace climate factors—staffing and resource adequacy, relations between nurses and physicians, co-worker support and supervisor support—are negatively related to on-the-job abuse.
- Associations between workplace climate and abuse are independent of the effects of personal and job characteristics.

### Limitations

Estimating the extent to which nurses experience on-the-job abuse and comparing estimates across surveys is hampered by the lack of a consistent definition of workplace violence.[49] Similar to other research, estimates of physical assault and emotional abuse for this study were based on self-reported data from nurses. No further explanation or definitions of these terms were given to respondents, and estimates of abuse were not validated against more objective sources.

The one-year period over which abuse was measured may have resulted in recall bias. As well, the survey asked no questions about the frequency or the severity of the abuse, which would have made it possible to gain a more complete understanding of predictors of abuse.

Negative affectivity, or a general tendency to be pessimistic, may have influenced the likelihood of negative perceptions of workplace climate factors and reporting abuse. If so, exaggerated associations between workplace climate factors and abuse may have resulted. Including job satisfaction and perceived mental health as control variables may have partly addressed this limitation, depending on the extent to which negative affectivity is correlated with job satisfaction and mental health.

The associations observed in the analysis may have been partially accounted for by societal factors that could not be considered because of the unavailability of data from the NSWHN. For example, influences arising from the socio-political context, the economy or the geographic location of the health care facility may have affected the likelihood of reports of abuse, but measures of such factors were not available.

The measures of workplace climate factors in the NSWHN are based on reports from nurses. Different results may have emerged if more objective measures—such as nurse-patient ratios and professional staffing mix (the ratio of registered nurses to licensed practical nurses and auxiliary staff)—had been used. The design of the NSWHN precluded linkage to administrative data that contain this information.

The NSWHN data are cross-sectional, so the temporal ordering of factors observed to be associated with each other cannot be established, and causality cannot be inferred. For example, whether nurses in fair or poor mental health were more likely than those in better mental health to be subsequently abused, or whether nurses who were abused were then more likely to experience fair or poor mental health, cannot be discerned from the data.

The NSWHN was administered to respondents by telephone. The degree to which this method of data collection may have affected the accuracy of responses is unknown.

### Conclusion

Findings from the NSWHN reveal that a substantial proportion of Canada's nurses experience physical and emotional abuse at the hands of patients. Workplace climate factors, including the perception that staffing and resources are inadequate and that interpersonal relations among health care workers are poor, were found to be related to higher risks of on-the-job abuse from patients. The importance of these findings is underscored by numerous studies that have found associations between on-the-job abuse from patients and a host of physical and psychological problems among nurses. Furthermore, studies providing evidence of a link between abuse from patients and nursing caregiving errors suggest that nurses' role may be compromised as a consequence of abuse. These potentially harmful consequences and the pervasiveness of abuse of Canada's nurses emphasize the importance of staffing and resource adequacy and interpersonal relations among health care providers.

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**Table A**
**Odds ratios relating workplace climate factors and other selected characteristics to physical assault by a patient over past 12 months, nurses providing direct care in hospitals or long-term care facilities, Canada, 2005**

| | Adjusted odds ratio | 95% confidence interval | |
|---|---|---|---|
| | | from | to |
| **Workplace climate factors** | | | |
| **Staffing/Resource adequacy** | | | |
| First quartile (most adequate)† | 1.0 | | |
| Second quartile | 1.2 | 1.0 | 1.5 |
| Third quartile | 1.5* | 1.2 | 1.8 |
| Fourth quartile (least adequate) | 2.1* | 1.7 | 2.6 |
| **Nurse-physician working relations** | | | |
| First quartile (most favourable)† | 1.0 | | |
| Second quartile | 1.1 | 0.9 | 1.4 |
| Third quartile | 1.1 | 0.9 | 1.3 |
| Fourth quartile (least favourable) | 1.0 | 0.8 | 1.2 |
| **Low supervisor support** | | | |
| Yes | 1.2* | 1.0 | 1.4 |
| No† | 1.0 | ... | ... |
| **Low co-worker support** | | | |
| Yes | 1.4* | 1.3 | 1.7 |
| No† | 1.0 | ... | ... |
| **Personal characteristics** | | | |
| **Sex** | | | |
| Female | 0.6* | 0.5 | 0.8 |
| Male† | 1.0 | ... | ... |
| **Years of experience in nursing** | | | |
| Fewer than 5 | 1.3* | 1.0 | 1.6 |
| 5 to 9 | 1.1 | 0.9 | 1.4 |
| 10 to 14 | 1.1 | 0.8 | 1.4 |
| 15 to 19† | 1.0 | | |
| 20 to 24 | 0.9 | 0.7 | 1.2 |
| 25 to 29 | 0.8 | 0.7 | 1.0 |
| 30 or more | 0.7* | 0.6 | 0.9 |
| **Bachelor's degree or higher in nursing** | | | |
| Yes | 1.0 | 0.8 | 1.2 |
| No† | 1.0 | ... | ... |
| **General health** | | | |
| Good, very good or excellent† | 1.0 | | |
| Fair or poor | 1.0 | 0.7 | 1.2 |
| **Mental health** | | | |
| Good, very good or excellent† | 1.0 | | |
| Fair or poor | 1.4 | 1.0 | 1.9 |
| **Job satisfaction** | | | |
| Very satisfied† | 1.0 | | |
| Somewhat satisfied | 1.1 | 0.9 | 1.3 |
| Somewhat dissatisfied | 1.5* | 1.1 | 1.9 |
| Very dissatisfied | 1.6* | 1.0 | 2.4 |
| **Type of nurse** | | | |
| Registered nurse† | 1.0 | | |
| Licensed practical nurse | 1.3* | 1.1 | 1.5 |
| Registered psychiatric nurse | 1.5* | 1.2 | 1.9 |
| **Job characteristics** | | | |
| **Work setting** | | | |
| Hospital† | 1.0 | | |
| Long-term care facility | 1.6* | 1.3 | 2.0 |
| **Clinical area of employment** | | | |
| Medicine/Surgery | 1.0 | 0.8 | 1.3 |
| Psychiatry/Mental health | 1.6* | 1.2 | 2.2 |
| Paediatrics | 0.5* | 0.3 | 0.9 |
| Maternity/Newborn | 0.1* | 0.1 | 0.2 |
| Geriatrics/Long-term care | 1.6* | 1.2 | 2.1 |
| Critical care | 1.5* | 1.1 | 2.1 |
| Ambulatory care | 0.5* | 0.3 | 0.8 |
| Operating/Recovery room | 0.5* | 0.3 | 0.7 |
| Emergency room | 1.3 | 1.0 | 1.7 |
| Several clinical areas† | 1.0 | | |
| Oncology | 0.5* | 0.3 | 0.9 |
| Rehabilitation | 0.8 | 0.5 | 1.2 |
| Palliative care | 1.4 | 1.0 | 2.0 |
| Other direct care | 0.8 | 0.5 | 1.2 |
| **Work status** | | | |
| Full-time | 1.0 | 0.9 | 1.2 |
| Part-time† | 1.0 | ... | ... |
| **Shift usually worked** | | | |
| Days† | 1.0 | | |
| Evenings | 1.7* | 1.3 | 2.1 |
| Nights | 1.8* | 1.4 | 2.2 |
| Mixed | 1.7* | 1.4 | 2.0 |
| **Length of shift** | | | |
| 12 hours | 1.6* | 1.4 | 1.9 |
| Under 12 hours† | 1.0 | ... | ... |

† reference category
* significantly different from estimate for reference category ($p < 0.05$)
... not applicable
**Source:** 2005 National Survey of the Work and Health of Nurses.

**Table B**
**Odds ratios relating workplace climate factors and other selected characteristics to emotional abuse from a patient over past 12 months, nurses providing direct care in hospitals or long-term care facilities, Canada, 2005**

| | Adjusted odds ratio | 95% confidence interval | |
|---|---|---|---|
| | | from | to |
| **Workplace climate factors** | | | |
| **Staffing/Resource adequacy** | | | |
| First quartile (most adequate)† | 1.0 | | |
| Second quartile | 1.3* | 1.1 | 1.6 |
| Third quartile | 1.7* | 1.4 | 2.1 |
| Fourth quartile (least adequate) | 2.2* | 1.8 | 2.6 |
| **Nurse-physician working relations** | | | |
| First quartile (most favourable)† | 1.0 | | |
| Second quartile | 1.1 | 0.9 | 1.3 |
| Third quartile | 1.3* | 1.1 | 1.5 |
| Fourth quartile (least favourable) | 1.5* | 1.3 | 1.8 |
| **Low supervisor support** | | | |
| Yes | 1.2* | 1.0 | 1.4 |
| No† | 1.0 | | |
| **Low co-worker support** | | | |
| Yes | 1.3* | 1.2 | 1.5 |
| No† | 1.0 | | |
| **Personal characteristics** | | | |
| **Sex** | | | |
| Female | 0.9 | 0.7 | 1.2 |
| Male† | 1.0 | | |
| **Years of experience in nursing** | | | |
| Fewer than 5 | 0.8* | 0.6 | 1.0 |
| 5 to 9 | 0.8 | 0.6 | 1.1 |
| 10 to 14 | 0.9 | 0.7 | 1.2 |
| 15 to 19† | 1.0 | | |
| 20 to 24 | 0.8 | 0.6 | 1.0 |
| 25 to 29 | 0.7* | 0.5 | 0.9 |
| 30 or more | 0.7* | 0.5 | 0.9 |
| **Bachelor's degree or higher in nursing** | | | |
| Yes | 1.1 | 0.9 | 1.3 |
| No† | 1.0 | | |
| **General health** | | | |
| Good, very good or excellent† | 1.0 | | |
| Fair or poor | 1.1 | 0.8 | 1.5 |
| **Mental health** | | | |
| Good, very good or excellent† | 1.0 | | |
| Fair or poor | 1.7* | 1.3 | 2.4 |
| **Job satisfaction** | | | |
| Very satisfied† | 1.0 | | |
| Somewhat satisfied | 1.1 | 1.0 | 1.3 |
| Somewhat dissatisfied | 1.2 | 0.9 | 1.6 |
| Very dissatisfied | 1.5 | 1.0 | 2.3 |
| **Type of nurse** | | | |
| Registered nurse† | 1.0 | | |
| Licensed practical nurse | 1.1 | 0.9 | 1.2 |
| Registered psychiatric nurse | 2.3* | 1.9 | 2.8 |
| **Job characteristics** | | | |
| **Work setting** | | | |
| Hospital† | 1.0 | | |
| Long term care facility | 1.1 | 0.9 | 1.3 |
| **Clinical area of employment** | | | |
| Medicine/Surgery | 1.1 | 0.9 | 1.4 |
| Psychiatry/Mental health | 2.9* | 1.9 | 4.2 |
| Paediatrics | 0.7 | 0.4 | 1.2 |
| Maternity/Newborn | 0.3* | 0.2 | 0.4 |
| Geriatrics/Long term care | 1.2 | 0.9 | 1.6 |
| Critical care | 1.1 | 0.8 | 1.6 |
| Ambulatory care | 1.1 | 0.7 | 1.6 |
| Operating/Recovery room | 0.4* | 0.3 | 0.6 |
| Emergency room | 2.4* | 1.8 | 3.2 |
| Several clinical areas† | 1.0 | | |
| Oncology | 0.9 | 0.6 | 1.3 |
| Rehabilitation | 1.0 | 0.7 | 1.5 |
| Palliative care | 1.0 | 0.7 | 1.4 |
| Other direct care | 0.9 | 0.6 | 1.4 |
| **Job tenure** | | | |
| Full-time | 1.0 | 0.9 | 1.1 |
| Part-time† | 1.0 | | |
| **Shift usually worked** | | | |
| Days† | 1.0 | | |
| Evenings | 1.4* | 1.2 | 1.8 |
| Nights | 1.3* | 1.1 | 1.6 |
| Mixed | 1.5* | 1.3 | 1.8 |
| **Length of shift** | | | |
| 12 hours | 1.6* | 1.4 | 1.9 |
| Under 12 hours† | 1.0 | | |

† reference category
* significantly different from estimate for reference category ($p < 0.05$)
.. not applicable
**Source**: 2005 National Survey of the Work and Health of Nurses